

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
17 June 2004 (17.06.2004)

PCT

(10) International Publication Number  
**WO 2004/050036 A3**

- (51) International Patent Classification<sup>7</sup>: **C07D 413/02**, A61K 31/421
- (21) International Application Number:  
PCT/US2003/038444
- (22) International Filing Date: 3 December 2003 (03.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/430,908 4 December 2002 (04.12.2002) US  
60/469,602 7 May 2003 (07.05.2003) US
- (71) Applicant (for all designated States except US): **GLAXO GROUP LIMITED** [GB/GB]; Glaxo Wellcome House, Berkeley Avenue, Greenford, Middlesex UB6 0NN (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **AXTEN, Jeffrey, Michael** [US/US]; 1250 Collegeville Road, Collegeville, PA 19426 (US). **DARTOIS, Catherine, Genevieve, Yvette** [FR/FR]; 33 rue Jean Monnet, 35760 Saint-Gregoire (FR). **NADLER, Guy, Marguerite, Marie, Gérard** [FR/FR]; 11 rue Paul Feval, 35000 Rennes (FR). **PEARSON, Neil, David** [GB/GB]; New Frontiers Sceince Park, Third Ave., Harlow, Essex CM19 5AW (GB).
- (54) Agent: **MADDEN, Laura, K.; SMITHKLINE BEECHAM CORPORATION**, Corporate Intellectual Property, UW2220,, 709 Swedeland Road, P.O. Box 1539, King of Prussia, PA 19406-0939 (US).
- (81) Designated States (*national*): AE, AG, AL, AU, BA, BB, BR, BZ, CA, CN, CO, CR, CU, DM, DZ, EC, EG, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MA, MG, MK, MN, MX, NO, NZ, OM, PH, PL, RO, SC, SG, TN, TT, UA, US, UZ, VN, YU, ZA.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:  
2 September 2004
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: QUINOLINES AND NITROGENATED DERIVATIVES THEREOF AND THEIR USE AS ANTIBACTERIAL AGENTS

(57) Abstract: Quinoline and naphthyridine derivatives useful in the treatment of bacterial infections in mammals, particularly humans.

WO 2004/050036 A3

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/38444

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07D 413/02; A61K 31/421

US CL : 544/48, 51, 52, 105; 546/153, 159, 171, 172, 176, 177; 514/224.2, 230.5, 312, 313, 314

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 544/48, 51, 52, 105; 546/153, 159, 171, 172, 176, 177; 514/224.2, 230.5, 312, 313, 314

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
CAS ONLINE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01/72723 A1 (NIPPON SODA CO., LTD.) 04 October 2001(04.10.2001), see formula (1).	1-9

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

24 June 2004 (24.06.2004)

Date of mailing of the international search report

07 JUL 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Deepak K. Rao

Telephone No. (571) 272-1600